

ମହାନଦୀ କୋଲ୍ ଫିଲ୍ଡ୍‌ସ୍ ଲିମିଟେଡ୍
महानदी कोलफील्ड्स लिमिटेड
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

OFFICE OF THE PROJECT OFFICER
NANDIRA COLLIERY,
PO:-N.S.NAGAR, BHARATPUR,
DIST:ANGUL (ODISHA), PIN:759148
e-mail: po-ndrc.mcl@nic.in



Ref.No: PO(N&N)/NDR/EC Compliance/2022-23/58

Dt 28.04.2022

To

The Additional Director,
Ministry of Environment Forest & Climate Change,
Eastern Zonal Office,
A-3, Chandrashekharpur,
Bhubaneswar-751023

Sub:-Submission of Half Yearly Compliance Report of Environmental Clearance condition in respect of NANDIRA U/G Mine (0.33 MTY).

Dear Sir,

Please find enclosed herewith Half Yearly Compliance Report along with Form-I, II & III and abstract of the monitoring report of Ambient Air, Noise level & Water Effluent quality in respect of NANDIRA U/G Mine (0.33 MTY) for the period from Oct'2021 to Mar'2022.

This is for your kind information & necessary action.

Encl: As above.

Yours faithfully


PROJECT OFFICER (N&N)
NANDIRA COLLIERY

Copy for Kind information to:

1. The Director, E.I.A Monitoring Cell, Ministry of Environment & Forest, Paryavaran Bhawan, C.G.O.Complex, New Delhi-100003 (With Encl.)
2. The Member Secretary, State Pollution Control Board (Odisha), A/118, Nilakanthanagar, Unit-VIII, BBSR-751012 (With Encl.).
3. The Regional Officer, SPCB (Odisha), Regional Office, Industrial Estate, Angul. (With Encl.).
4. The General Manager, MCL, Talcher Area.
5. The General Manager (Environment,) MCL HQ, Burla, Sambalpur.

Copy to:

1. The Colliery Manager, Nandira Colliery.
2. The Area Environment Officer, Talcher Area (with Encl.)
3. The Nodal Officer (Envnt.), Nandira Colliery (with Encl.)


CHIEF MANAGER / PROJECT OFFICER (N&N)
NANDIRA COLLIERY

HALF YEARLY PROGRESS REPORT
OF COMPLIANCE WITH
ENVIROMENTAL CLEARANCE
CONDITIONS

(OCTOBER-2021 TO MARCH-2022)

NANDIRA U/G MINE (0.33 MTY)



MCL

MAHANADI COALFIELDS LIMITED
TALCHER AREA
AT/PO: N.S.NAGAR, BHARATPUR,
ANGUL, ODISHA
PIN-759148.

HALF-YEARLY REPORT OF COMPLIANCE WITH ENVIROMENTAL CLEARANCE CONDITIONS

(HALF-YEARLY FROM OCTOBER'2021 TO MARCH'2022

Name of the Project: Nandira Colliery. (0.33 Mty), MCL.

No. & date of MoEF clearance letter No: J-11015/866/2007-IA.II (M), dated 18th June 2007

Revalidated Vide No: J-11015/866/2007-IA.II(M), Dt: 15.11.2020

Amended Vide No: J-11015/866/2007-IA.II(M), Dt: 16.09.2021

A)	SPECIFIC CONDITIONS	COMPLIANCE STATUS
(i)	No depillaring operation shall be carried out below village and other surface structures.	No depillaring operation has been carried out below village and other surface structures.
(ii)	Solid barriers shall be left below the roads falling within the blocks to avoid any damage to road.	Solid barriers have been left below the roads falling within the blocks to avoid any damage to the blocks.
(iii)	Regular monitoring of subsidence movement on the surface over and around working area and impact on natural drainage pattern, water bodies, vegetation, structure, road and surrounding should be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoided loss life and material. Crack should be effectively plugged with ballast and clayey soil/suitable material.	Regular monitoring of subsidence movement on the surface over and around the depillared area is being done. No subsidence has been observed so far, no cracks have been observed anywhere.
(iv)	Garland /surface drain (size, gradient and length) around the safety area such as mine shaft outside the active subsidence area to divert the surface water from the ML and from low lying areas. Sump capacity should be designed keeping 50% safety margin over an above the pack sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity should also provide adequate retention period to allow proper setting of site material. Sufficient number of pumps of adequate capacity shall be deployed to pump out mine water during peak rainfall.	Garland drains are provided around the mine area. Adequate sump capacity has been established below ground keeping in view of maximum rainfall & adequate retention time, sufficient number of pumps of adequate capacity have been installed below ground to pump out mine water during peak rainfall.
(v)	While extracting panels in the lower seam, all water bodies in the subsidence area shall be drained. Dewatering of the old goaves of the upper seam shall be continued as long as the lower seam is worked to prevent accumulation of large water bodies over working area.	No lower seam below a goaved out upper seam is being presently worked.

(vi)	Crusher at the CHP should operate with high efficiency bag filters. Water sprinkling system should be provided to check fugitive emissions from crushing operations, conveyor system, haulage road, transfer point etc.	There is no crusher plant at the mine. Adequate water spraying through fixed water sprinklers and mobile water tanker is being done to prevent fugitive emission from conveyor system, transfer points, coal stockyard and CT road etc.																								
(vii)	Conveyor belt for transportation of coal from coal face to CHP shall be a closed unit.	Blasted coal is loaded from face by SDLs onto pony belts/gate belts and further transported to surface via series of gate and trunk belts. Conveyor belts at surface fully covered. Moreover, all the belt conveyors have arrangement for water sprinkling through mist nozzles over it at regular intervals.																								
(viii)	Drills should be wet operated.	All the drilling machines are equipped and operated with wet drilling system.																								
(ix)	A progressive afforestation plan shall be prepared and implemented for the undisturbed area and shall include area brought under green belt development, area along road, infrastructure ,over surface where mining is being done below, along ML boundary and township outside the lease area, etc. by planting native species in consultation with the local DFO/Agriculture department. The density of the tree should be around 2500 plants per ha.	<p>Total lease area of the project is 370 Ha involving 328 Ha of forest land. Only 9.10 Ha has been disturbed at surface for mine opening & surface infrastructure. Rest of the area is undisturbed.</p> <p>Block plantation of about 3800 plants have already been done over 2.66 Ha of land at Nandira Colliery premises, Near Coal Stockyard, Near Worker's Institute, Nandira U.P. school, Sisu Mandir Vidhyalaya etc. (wherever, surface rights vested with MCL) for increasing green cover.</p> <p>Green belt has been developed by planting 1480 no. of plants along CT road & colony road for a length of 3.0 RKM & 8.845 RKM respectively.</p> <p>Adequate plantation has been done in the ML Area of the mine as per the advice of forest department. Last 3 years plantation details are given below:-</p> <table border="1" data-bbox="932 1308 1517 1570"> <thead> <tr> <th>Year</th> <th>No of Plants</th> <th>Area (Ha)</th> <th>Expenditure (Rs.)</th> </tr> </thead> <tbody> <tr> <td>2017-18</td> <td>550</td> <td>0.20</td> <td>63585</td> </tr> <tr> <td>2018-19</td> <td>50</td> <td>0.02</td> <td>4000</td> </tr> <tr> <td>2019-20</td> <td>20</td> <td>0.01</td> <td>2000</td> </tr> <tr> <td>2020-21</td> <td>50</td> <td>0.02</td> <td>5000</td> </tr> <tr> <td>2021-22</td> <td>650</td> <td>1.10</td> <td>2,40,000</td> </tr> </tbody> </table> <p>In addition to the above plantation works, fruit bearing plants are also being distributed to surrounding villagers as per their demand, during monsoon of every year at free of cost for raising green cover. Detail of such plant distribution to the specified surrounding villages during recent years is given below:-</p>	Year	No of Plants	Area (Ha)	Expenditure (Rs.)	2017-18	550	0.20	63585	2018-19	50	0.02	4000	2019-20	20	0.01	2000	2020-21	50	0.02	5000	2021-22	650	1.10	2,40,000
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			2019-20	2020-21	2021-22																												
		Karnapur	1000	-																													
		Sanjorada	628			1215	245																										
		Badajorada																															
		Sansingda	1000	-	212																												
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		Natedi	576		124																												
		Danara	2693	1935	564																												
		Jambubahali	2394	1521	-																												
(x)	<p>Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells construction of new piezometers.</p> <p>The monitoring for quantity should be done four times a year in pre-monsoon (may), monsoon (August), post monsoon (November) and winter (January) seasons and for quality in May. Date thus collected should be submitted to the ministry of Environment & forest and to the central pollution control board quarterly within one month of monitoring.</p>	<p>The ground water level and quality is being monitored through a network of existing wells and piezometers established in Talcher Coalfields. The water quantity monitored in a piezometer established under the jurisdiction of Nandira Colliery and a village well is given below:-</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Location</th> <th>Water Depth from Ground Level(in m)</th> </tr> </thead> <tbody> <tr> <td>30.11.2021</td> <td rowspan="2">Natedi village well</td> <td>7.82</td> </tr> <tr> <td>24.01.2022</td> <td>7.82</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Date</th> <th>Location</th> <th>Water Depth from Ground Level (in m)</th> </tr> </thead> <tbody> <tr> <td>30.11.2021</td> <td rowspan="2">Peizometer No. MTP-11</td> <td>8.09</td> </tr> <tr> <td>27.01.2022</td> <td>8.45</td> </tr> </tbody> </table> <p>Data thus collected is being submitted to MoEF&CC & CPCB at regular intervals and also made available at MCL website.</p>				Date	Location	Water Depth from Ground Level(in m)	30.11.2021	Natedi village well	7.82	24.01.2022	7.82	Date	Location	Water Depth from Ground Level (in m)	30.11.2021	Peizometer No. MTP-11	8.09	27.01.2022	8.45												
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(xi)	<p>The company shall put up artificial ground water recharge measures for augmentation of ground water resource if monitoring of water table indicates declining trend. The project authorities should meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.</p>	<p>Ground water & surface water level are being monitored at regular intervals. The water table is found to be normal and there is no declining trend observed. Moreover, 02 no. of roof top rainwater harvesting structures have been developed at Nandira Dispensary and Worker's institute to recharge the ground water table. Moreover, water is being supplied through pipeline, water tankers etc. to nearby villages for their domestic purposes as per their demand. The details of water supplied through tankers during last 3/4 year details are as follows:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>No. of villages</th> <th>Quantity (KL)</th> <th>Expenditure (In Lakhs)</th> </tr> </thead> <tbody> <tr> <td>2016-17</td> <td>17</td> <td>60500</td> <td>62.00</td> </tr> <tr> <td>2017-18</td> <td>17</td> <td>52000</td> <td>51.00</td> </tr> <tr> <td>2018-19</td> <td>13</td> <td>38392</td> <td>50.693</td> </tr> <tr> <td>2019-20</td> <td>13</td> <td>38400</td> <td>51.00</td> </tr> <tr> <td>2020-21</td> <td>13</td> <td>38400</td> <td>55.00</td> </tr> <tr> <td>2021-22</td> <td>13</td> <td>38400</td> <td>52.12</td> </tr> </tbody> </table>				Year	No. of villages	Quantity (KL)	Expenditure (In Lakhs)	2016-17	17	60500	62.00	2017-18	17	52000	51.00	2018-19	13	38392	50.693	2019-20	13	38400	51.00	2020-21	13	38400	55.00	2021-22	13	38400	52.12
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(xii)	<p>The company shall obtain prior approval of CGWA/CGWB Regional office for use of ground water if any, for mining operation.</p>	<p>NoC has been obtained from Central Ground Water Authority vide No. CGWA/NOC/MIN/ORIG/20020/9385, Dt: 16.12.2020 with validity upto : 15.12.2022</p>																															
(xiii)	<p>Sewage treatment plant should be installed in the existing colony. ETP should also be provided for workshop and CHP waste water.</p>	<p>Septic tank soak pit arrangement is available at each and every quarter. The domestic effluent is being discharged to soak pit through septic tank.</p> <p>Construction of STP (MBBR technology) for a</p>																															

		<p>capacity of 0.5 MLD is under progress. No effluent generated from workshop, as there is no vehicle washing takes place. No CHP involved in the mine, hence ETP is not needed, as there is no waste water generated at the mine.</p>																																																						
(xiv)	<p>Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged active mining operations shall be subjected to health checkup for occupational diseases and nearing impairment, if any through an agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.</p>	<p>Occupational health surveillance programme of the workers are being made regularly. Moreover, Nandira dispensary, Regional Hospital, Dera and Central Hospital are also available for the purpose of health check up of employees. Health check up of employees engaged in active mining activities has also been carried out by an outside agency. Details of IME & PME status is as follows;</p> <table border="1"> <thead> <tr> <th>Year</th> <th>IME Target</th> <th>IME Done</th> <th>Man Power</th> <th>Target PME</th> <th>PME Done</th> </tr> </thead> <tbody> <tr> <td>2014-15</td> <td>93</td> <td>93</td> <td>1718</td> <td>360</td> <td>251</td> </tr> <tr> <td>2015-16</td> <td>15</td> <td>15</td> <td>1785</td> <td>305</td> <td>316</td> </tr> <tr> <td>2016-17</td> <td>-</td> <td>-</td> <td>1750</td> <td>530</td> <td>365</td> </tr> <tr> <td>2017-18</td> <td>15</td> <td>15</td> <td>1664</td> <td>785</td> <td>500</td> </tr> <tr> <td>2018-19</td> <td>15</td> <td>15</td> <td>1243</td> <td>410</td> <td>259</td> </tr> <tr> <td>2019-20</td> <td>15</td> <td>15</td> <td>1194</td> <td>358</td> <td>187</td> </tr> <tr> <td>2020-21</td> <td>-</td> <td>-</td> <td>1785</td> <td>500</td> <td>483</td> </tr> <tr> <td>2021-22</td> <td>-</td> <td>-</td> <td>1752</td> <td>529</td> <td>564</td> </tr> </tbody> </table>	Year	IME Target	IME Done	Man Power	Target PME	PME Done	2014-15	93	93	1718	360	251	2015-16	15	15	1785	305	316	2016-17	-	-	1750	530	365	2017-18	15	15	1664	785	500	2018-19	15	15	1243	410	259	2019-20	15	15	1194	358	187	2020-21	-	-	1785	500	483	2021-22	-	-	1752	529	564
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(xv)	<p>Digital processing of the entire lease area using remote sensing technique should be done regularly once in 3 years for monitoring land used pattern and report submitted to a MOEF and its Regional office at Bhopal.</p>	<p>Digital processing of the entire lease area using remote sensing technique is being done regularly once in 3 years for monitoring the land use pattern. It was carried out recently in the year 2019 and prior to that it was done in the year 2016 and reports submitted to MoEF And the details are given below: Total Leasehold area = 370 Ha Area under agriculture = 15.78 Ha Area under water body = 0.43 Waste land = Nil Forest land = 325.38 Ha Area under habitation = Nil Other Govt. land = 28.41 Ha</p>																																																						
(xvi)	<p>A final Mine closure plan along with details of corpus fund should be submitted to the Ministry of Environment & forest 5 years in advance of final mine closure for approval.</p>	<p>A mine closure plan with details of corpus fund already submitted to MoEF. Accordingly a progressive mine closure report for the period from 2011-12 to 2015-16 has been submitted at CCO and got 50% reimbursement of deposited amount as per the latest guidelines.</p>																																																						

ADDITIONAL CONDITIONS PROVIDED IN THE REVALIDATED EC & AMENDED THEREBY

4)	ADDITIONAL SPECIFIC CONDITIONS	COMPLIANCE STATUS
(i)	<p><u>Revalidated EC:</u> Construction of Sewage Treatment Plant (latest technology SBR/MBBR/MBR) should be completed by July 2021 and treated water shall be reused for plantation. As documentary proof, STP photograph after its commission to be submitted to RO, MoEF&CC with copies of its CTE and CTO.</p> <p><u>Amended EC:</u> Time extension provided upto April'2022 to comply the condition no.4(i)</p>	<p>Construction of STP for the capacity of 0.5 MLD is under progress. A work order has been awarded to M/s. Red Circle Industries, Nagpur on Dt: 23.08.2021 for construction of STP (MBBR based). Construction work is under progress. As per the agreement executed by the party, the timeline for completion of STP was 20.04.2022. However due to various reasons the [arty could not able to complete the work as per time bound programme.</p> <p>Our proposal for extension of time upto Dec'2022 for completion of construction of STP was considered in 28th EAC meeting held on Dt: 01.04.2022 and EAC recommended extending the timeline upto Dec'2022 vide MoM on Dt:19.04.2022. Amended EC will be granted by MoEF&CC very shortly.</p>
(ii)	<p>SPCB shall ensure no CTO shall be granted to project on fulfillment of condition no.1</p> <p><u>Amended EC:</u> Time extension provided upto April'2022 to comply the condition no.4(ii)</p>	<p>SPCB, Odisha has granted CTO only up to 30.04.2022 as per the timeline given in EC. After grant of Amended EC, CTO will be granted by SPCB, Odisha accordingly.</p>
(iii)	<p>No untreated wastewater or treated water shall be discharged to any water bodies including river. All efforts to be made to reuse the water.</p>	<p>The treated water will be reused especially for irrigation purpose at plantation site.</p>
(iv)	<p>PP shall obtain No Objection Certificate from Central Ground Water Authority within six months and submit it Ministry's Regional Office.</p>	<p>No Objection Certificate (NoC) has been obtained from Central Ground Water Authority vide No. CGWA/NOC/MIN/ ORIG/20020/9385, Dt: 16.12.2020 with validity upto: 15.12.2022. Compliance of conditions stipulated therein is under progress.</p>
(v)	<p>As proposed additional fixed type water sprinklers all around the coal stockyard/at the extension portion of firefighting system should be completed by March 2021 as the work of extension of pipeline for firefighting is in progress.</p>	<p>05 no. of additional Fixed type water sprinklers have been provided at the extension portion of firefighting system.</p>
(vi)	<p>PP shall complete the work of blacktopping of existing WBM road (for a length of 460m) used for coal transportation by May 2021.</p>	<p>The work of conversion of existing CT road from WBM to blacktopping of existing WBM for a length of 460m has been completed.</p>
(vii)	<p>Green belt shall be enhanced up to 33% beyond the proposal plan of five years submitted by PP vide its letter dated 2nd October, 2020</p>	<p>As proposed vide our letter dated 02.10.2020, Plantation over an area of 1.20 Ha land has been completed at/besides coal stockyard, Nandira Colliery.</p>
(viii)	<p>Compliance report of above EC conditions shall be submitted to RO, MoEF&CC under intimation to MoEF&CC, Delhi.</p>	<p>It is hereby submitted</p>

B.	GENERAL CONDITIONS	COMPLIANCE STATUS																																										
(i)	No change of mining technology and scope of working should be made without prior approval of the Ministry of Environment and forests.	There has been no change in mining technology and scope of working so far.																																										
(ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste should be made.	<p>There has been no change in calendar plan of extraction quantum of coal. EC capacity of the mine is 0.33 Million tonnes. Details of coal production during the last 04 years:-</p> <table border="1" data-bbox="821 450 1271 607"> <thead> <tr> <th>Year</th> <th>Production year wise</th> </tr> </thead> <tbody> <tr> <td>2017-18</td> <td>1,30,897 Met. te</td> </tr> <tr> <td>2018-19</td> <td>1,07,000 Met. te</td> </tr> <tr> <td>2019-20</td> <td>85,000 Met. te</td> </tr> <tr> <td>2020-21</td> <td>75,832 Met. te</td> </tr> <tr> <td>2021-22</td> <td>60,160 Met. te</td> </tr> </tbody> </table>	Year	Production year wise	2017-18	1,30,897 Met. te	2018-19	1,07,000 Met. te	2019-20	85,000 Met. te	2020-21	75,832 Met. te	2021-22	60,160 Met. te																														
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(iii)	Four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for SPM ,RSPM, Sox and Nox monitoring, location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consolation with the State Pollution Control Board.	<p>Ambient air quality monitoring station has been established in consultation with state pollution control board. The data on AAQ parameters for the period Oct'2021 to Mar'2022 are provided in Annexure - I & average values are given below:-</p> <p>1) Table-1: Compliance Stations:</p> <table border="1" data-bbox="821 846 1464 1037"> <thead> <tr> <th>Location</th> <th>Parameter s</th> <th>PM_{2.5}</th> <th>PM₁₀</th> <th>SO₂</th> <th>NO_x</th> <th>SPM</th> </tr> </thead> <tbody> <tr> <td>Project Office</td> <td>Avg.</td> <td>203.08</td> <td>133.91</td> <td>45.1</td> <td>18.2</td> <td>26.66</td> </tr> <tr> <td>Substation</td> <td>Avg.</td> <td>219.58</td> <td>141.08</td> <td>48.0</td> <td>16.4</td> <td>25.60</td> </tr> </tbody> </table> <p>2) Table-2: NAAQs Stations:-</p> <table border="1" data-bbox="821 1104 1464 1261"> <thead> <tr> <th>Location</th> <th>Parameters</th> <th>PM_{2.5}</th> <th>PM₁₀</th> <th>SO₂</th> <th>NO_x</th> <th>SPM</th> </tr> </thead> <tbody> <tr> <td>Natedi Village</td> <td>Avg.</td> <td>141.15</td> <td>76.03</td> <td>37.25</td> <td>14.20</td> <td>22.36</td> </tr> <tr> <td>Nandira Colony</td> <td>Avg.</td> <td>144.3</td> <td>79.19</td> <td>38.2</td> <td>16.8</td> <td>27.95</td> </tr> </tbody> </table>	Location	Parameter s	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Project Office	Avg.	203.08	133.91	45.1	18.2	26.66	Substation	Avg.	219.58	141.08	48.0	16.4	25.60	Location	Parameters	PM _{2.5}	PM ₁₀	SO ₂	NO _x	SPM	Natedi Village	Avg.	141.15	76.03	37.25	14.20	22.36	Nandira Colony	Avg.	144.3	79.19	38.2	16.8	27.95
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(iv)	Data on ambient air quality (SPM, RSPM, SO ₂ and Nox) should be regularly submitted to the Ministry including its regional office at Bhubaneswar and to the state pollution control Board and the Central pollution control Board once in six months.	Data of ambient air quality is being submitted (half yearly) to MoEF&CC, SPCB/CPCB. The data on AAQ parameters for the period October'2021 to March'2022 are provided in Annexure – I .																																										
(v)	Fugitive dust emissions from all the sources should be controlled regularly monitored and data recorded properly, water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points should be provided and properly maintained.	Fugitive dust emissions from coal bunker to loading points are controlled by regular water spraying. Water spraying is being done regularly along the haul road/coal transportation roads.																																										

(vi)	Adequate measures should be taken for control of noise levels below 85 DBA in the work environment, workers engaged in blasting and drilling operations, operation of HEMM, etc should be provided with ear plugs/muffs.	<p>Adequate measures have been taken to maintain noise level below 85 DBA at the working places. Noise level is measured at two locations and average values- are provided below:</p> <table border="1" data-bbox="815 291 1277 414"> <thead> <tr> <th colspan="3">Noise Measurement in dBA</th> </tr> <tr> <th>Location</th> <th>DAY</th> <th>NIGHT</th> </tr> </thead> <tbody> <tr> <td>Project Office</td> <td>60.57</td> <td>56.50</td> </tr> <tr> <td>Substation</td> <td>62.33</td> <td>56.21</td> </tr> </tbody> </table> <p>Data for the period October'2021 to March'2022 are provided at Annexure – II.</p>	Noise Measurement in dBA			Location	DAY	NIGHT	Project Office	60.57	56.50	Substation	62.33	56.21																								
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(vii)	Industrial wastewater (workshop and wastewater from the mine) should be properly collected treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May 1993 and 31 st December 1993 or as amended from time to time before discharge, oil and grease trap should be install before discharge of workshop effluents.	<p>Mine discharge water is being collected in sedimentation ponds and treated suitably before being allowed to discharge on ground. No waste water discharged from workshop. Mine discharge water quality report is given below with average values:</p> <table border="1" data-bbox="815 649 1450 784"> <thead> <tr> <th>Location</th> <th>Para meters</th> <th>pH</th> <th>O&G</th> <th>TSS</th> <th>COD</th> </tr> </thead> <tbody> <tr> <td>Mine Discharge water</td> <td>Avg.</td> <td>7.24</td> <td>< 4.0</td> <td>31.50</td> <td>22.67</td> </tr> </tbody> </table> <p>Data for the period October'2021 to March'2022 are provided at Annexure – III.</p>	Location	Para meters	pH	O&G	TSS	COD	Mine Discharge water	Avg.	7.24	< 4.0	31.50	22.67																								
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(viii)	Vehicular emissions should be kept under control and regularly monitored, vehicles used for transporting the mineral should be covered with tarpaulins and optimally loaded.	Vehicles used for transporting the mineral are being covered with tarpaulins and optimally loaded. And it is being verified regularly that all the vehicles used for transportation possess pollution under control certificate.																																				
(ix)	Environment laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the state pollution control board.	Environmental monitoring works is being done through CMPDIL having adequate laboratory facilities as required by state pollution Control Board.																																				
(x)	Personal working industry areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance of the workers should be undertaken periodically to any contractions due to exposure to dust and to take correct measure, if needed	<p>Persons working in dusty areas are provided with dust masks and educated on health aspects, periodically occupational health checkup of all workers is carried out once in every five years regularly. Details of Periodical Medical Examination during last 4 years are as follows:</p> <table border="1" data-bbox="815 1456 1466 1691"> <thead> <tr> <th>Year</th> <th>IME Target</th> <th>IME Done</th> <th>Man Power</th> <th>Target PME</th> <th>PME Done</th> </tr> </thead> <tbody> <tr> <td>2017-18</td> <td>15</td> <td>15</td> <td>1664</td> <td>785</td> <td>500</td> </tr> <tr> <td>2018-19</td> <td>15</td> <td>15</td> <td>1243</td> <td>410</td> <td>259</td> </tr> <tr> <td>2019-20</td> <td>15</td> <td>15</td> <td>1194</td> <td>358</td> <td>187</td> </tr> <tr> <td>2020-21</td> <td>-</td> <td>-</td> <td>1785</td> <td>500</td> <td>483</td> </tr> <tr> <td>2021-22</td> <td>-</td> <td>-</td> <td>1752</td> <td>529</td> <td>564</td> </tr> </tbody> </table>	Year	IME Target	IME Done	Man Power	Target PME	PME Done	2017-18	15	15	1664	785	500	2018-19	15	15	1243	410	259	2019-20	15	15	1194	358	187	2020-21	-	-	1785	500	483	2021-22	-	-	1752	529	564
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(xi)	A separate environment management cell with suitable qualified personal should be set under the control of a senior Executive, who will report directly to the head of the company.	A separate environment management cell with qualified personnel is under the control of Senior at Area HQ level and who will directly report to the Head of the Company.																																				

(xii)	The funds earmarked for environment protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be report to this ministry and it's Regional Office at Bhubaneshwar.	<p>Funds earmarked for environmental protection measures are kept in a separate account head of "Environment". Year-wise expenditure is reported to MOEF, Sate Pollution Control Board by Company HQ.</p> <table border="1" data-bbox="837 286 1468 555"> <thead> <tr> <th>Year</th> <th>Expenditure for Environment Protection</th> </tr> </thead> <tbody> <tr> <td>2016-17</td> <td>23.22 Lakhs</td> </tr> <tr> <td>2017-18</td> <td>31.32 Lakhs</td> </tr> <tr> <td>2018-19</td> <td>26.28 Lakhs</td> </tr> <tr> <td>2019-20</td> <td>42.00 Lakhs</td> </tr> <tr> <td>2020-21</td> <td>93.44 Lakhs</td> </tr> <tr> <td>2021-22</td> <td>83.44 Lakhs</td> </tr> </tbody> </table>	Year	Expenditure for Environment Protection	2016-17	23.22 Lakhs	2017-18	31.32 Lakhs	2018-19	26.28 Lakhs	2019-20	42.00 Lakhs	2020-21	93.44 Lakhs	2021-22	83.44 Lakhs
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2019-20	42.00 Lakhs															
2020-21	93.44 Lakhs															
2021-22	83.44 Lakhs															
(xiii)	A copy of the environment clearance letter will be market to concerned panchayat/local NGO, if any, from whom any suggestion /representation has been received while processing the proposal.	A copy of environmental clearance had been given to local Panchayat.														
(xiv)	State pollution control board should display a copy of the clearance letter at the Regional Office, District industry center and collector's Office/Tehsildar's Office for 30 days.	A copy of EC had displayed by SPCB and at the regional office, district industry center and collector's office.														
(xv)	The Project authorities should advertise at least in two local newspapers widely circulated around the project one of which shall be in the vernacular language of the locality concerned within seven days of the clearance and a copy of the clearance letter is available with the State Pollution Control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in .	<p>Grant of EC was published in two Odia Newspapers viz. 1) Sambad, 2) Dharitri, Angul on 24.07.2008 by the public relation manager MCL HQ.</p> <p>Grant of Revalidated EC was published in following Newspapers viz. 1) PBD, 2) Sambad, Angul on 15.12.2020.</p> <p>It is also available in the MoEF website http://envfor.nic.in</p>														



**PROJECT OFFICER (N&N)
NANDIRA COLLIERY**



FORM-I

**MINISTRY OF ENVIRONMENT & FOREST
REGIONAL OFFICE
MONITORING PROFOMA PART-1(DATA SHEET)**

1. Project Type: River-Valley/Mining Industry/Thermal/Nuclear/Other (Specify) : Mining Industry (COAL)
2. Name of the Project : NANDIRA U/G Mine (0.33 MTY)
3. Clearance Letter(s) OM no. & Date : No.J-11015/866/2007-IA.II (M) dt.18.06.2007
No.J-11015/866/2007-IA.II (M) dt.18.06.2007
4. Location
(a) District(s), State(s) : Angul, Orissa
5. a) Address of concerned project Chief Engineer (with pin code) : Sri.Asit Kumar, Project Officer,
Nandira Colliery, Po: N.S.Nagar,
Bharatpur, Dist-Angul,
Orissa, Pin-759148, Tel.No.06760-260209
- b) Address of Executive project Engineer/Manager (with pin code and telephone/telex/Fax nos.) : -do-
6. Salient Feature:
a. S.F of the project : Start of mine - Feb'1962. Mine lease area 370 Ha, Mineable reserve 19.8 Mt, Extractable reserve-11.226 Mt (As per Appr. Mining plan 2011). The Grade of coal is 'C' Mining Technology is Board & Pillar with SDLs. Targeted output- 0.33 Mty of augmented project Life of mine is 30 years (As per Mining plan May'2011)
- b. S.F of the environmental Management plans. : Panels where Top & Bottom seams are worked Should be extracted with stowing to prevent damage to reserve forest while other panels can be worked out as the subsidence limit is 20mm/m
7. Breakup of the project area
a. Submergence area (Forest and Non-Forest) : Forest – 325.38 Ha.
Non-Forest – 44.62 Ha (Govt. and tenancy)
- b. Others : Residential Colony – 33.91 Ha.
8. Break up of project affected population With enumeration of those losing House/dwelling units only, agricultural Land only, both dwelling unit and Agricultural land and land less laborers/artisans. : NA
- a. SC, ST/Adivasis : NA
- b. Others : NA
9. Financial Details:
a) Project cost as originally planned and Subsequently estimates and the year of price reference. : P.R- 1962. Project cost: 14.64 lakhs
F.R.Nov.1973; Project cost: 724.35 lakhs
May 1986; Project cost: 204.12 lakhs
PR Aug.1991; Project cost: 17.96 lakhs

- b) Allocation made for environmental Management plans, with item-wise year wise break-up. : ECO development cost
: 131.06 lakh
- Anti pollution measurement Cost: 38.55 lakhs
- Cost of strengthening of existing
- Forest land on surface: 20.77 lakhs
- c) Benefit cost ratio/internal rate of return & the year of assessment. : Cost Rs. /te. Profit/Loss Rs. /te.
- d) Whether 9 c) includes the cost of Environment management plans so far. : NA
- e) Actual expenditure incurred on the project : 5940.05 lakhs
- f) Actual expenditure incurred on the Env't. Mgmt plans, so far. : 83.44 Lakhs (2021-22)
:
10. Forest land requirements.
- a) The status of approval of a diversion of forest land non-forestry use. : The diversion of 325.38 Ha. of Forest Land has been granted for U/G mining.
- b) The status clear felling. :-NA-
- c) Comments on the viability and Sustainability programme in the light of actual fields experience so far. : No
- 11 .Status of construction:
- a) Date of commencement (Actual and /or planned) : Feb'1962
- b) Date of Completion (Actual and /or planned) : Aug'1991
12. Reason for the delay if the project is yet to start: NA
13. Date of site visit
- a) The date on which the project was monitored by the regional office , if any. : 02.02.2022
- b) Date of visit for this monitoring report. : 02.02.2022
14. Details of correspondence with project authority:
For obtaining action, information and status of compliance to safe guard.

 28.4.22

**PROJECT OFFICER (N&N)
NANDIRA COLLIERY**



FORM-II

PROFORMA FOR PROVIDING INFORMATION ON REHABILITATION

1. No. of village affected : Nil (Rehabilitation Plan not applicable)

2. Families affected : SC ST OTH. Total

3. Compensation package offered per family :

State/Centre norms	Project Package
As per state Govt. Package	

4. Budget estimate for rehabilitation. : NA

a) Total Outlay. : NA

b) Amount paid /used. : NA

5. Employment details

a) Total employment to be provided : NA

b) Employment given so far. :

6. Rehabilitation & Resettlement details. : NA

a) Nos. of families rehabilitated : NA

i. Name of the site : NA


iv. Families rehabilitated. : NA SC ST OTH. TOTAL

b) Families yet to be rehabilitated : NA

i. Name of site. : NA

ii. No. of families : NA SC ST OTH. TOTAL

Any other information. : -



**PROJECT OFFICER (N&N)
NANDIRA COLLIERY**



FORM-III

**FORMATE FOR PROVIDING PARTICULARS ON GREEN
BELT/PLANTATION UNDER F©ACT 1980 AND E (P) ACT 1986**

1. a. Name of Organization : MAHANADI COALFIELDS LTD.
b. Env't clearance order No. : No.J-11015/866/2007-IA.II(M) Dtd.18.06.2007
Revalidated on Dt:15.11.2020 & amended on Dt:16.09.2021
c. Forest clearance order No. : F.No.8-74/2004 FC dt.16.6.2009
2. Location,Block/Sub Division/
District./State. : Village-Badajorada
: Block – Talcher, Sub. Dvn, Talcher, Dist:Angul
State-Orissa
3. Address for communication : Project Officer, Nandira Colliery, MCL
P.O: N.S.Nagar (Bharatpur), Dist:Angul (Orissa),
Pin-759148
4. Existing vegetation in the area/region :
a. Species (Trees/shrub/Grasses/climbers.) : Trees, Shrubs, Grasses& climbers
b. major prevalent species of each type :
5. Land coverage by the project
a. Total Area under the project : 403.91 Ha.
b. Area covered for basic infrastructure : 33.91 Ha.
(road, building/factory etc.)
6. Details about natural vegetation
a. Name and number of tree/species felled : Nil
b. Name and number of plants species still: 3850 Nos
available in the area.
c. By protecting the area will indigenous :
- d. Extent of green belt developed. : 2.65 Ha.
7. Plantation required to be carried out as per.
a. Condition of Environment : As per specific condition No.ix.
(Clearance in Ha/No.s plants/Ha) : 2500 Nos. of plants/Ha
b. A condition of forest © Act : 1600 Nos.of plants/Ha
Forest clearance in Ha/No.
c. Voluntarily in Ha. /Nos. : 2500 Nos./Ha.

8. Details about plantation.

- a) Total area available for plantation in 2021-22 in each category.

Green belt	Ext dump	B/F Area.	Road sides	Block plantations.
650	Nil	Nil	Nil	1.0 Ha

- b) Plantation details (Category wise & methodology used)

Year of plantation	Species planted	Spacing	Height attained	Total area covered till Sept'21	Proposed plantation programme in 2021-22
1993 to 2021	Given in Annex-A	2m x 2m	5 to 8 m	2.65 Ha	1000

- c) Survival % of plantation (for last five years) : 80 % - 85 % after 3/5 years of plantation.

9. Agency carrying out plantation and maintenance: Orissa Forest Development Corporation Ltd., Angul (C-KL) Division and Chhattisgarh Van Vikas Nigam Limited, Korba Division for 2017-18.

10. Financial Details. (Year wise and item wise):

A) Plantation:

Sl No	Year	Fund allocated (In Lakh Rs. For 3/5 years.	Expenditure made in lakh Rs. For 3/5 years	No. of plants Planted	Average cost each surviving plants in Rs. (plantation scheme valid for 3/5 years)
1.	1990-91	1.64 lakhs	1.64 lakhs	12000	17.08 for 9600 plants
2.	1991-92	1.77 lakhs	1.77 lakhs	12500	17.7 for 10000 plants
3.	1992-93	2.0 lakhs	2.0 lakhs	15000	16.67 for 12000 plants
4.	1993-94	1.6 lakhs	1.6 lakhs	13000	15.38 for 10400 plants
5.	1994-95	3.75 lakhs	3.75 lakhs	29000	16.16 for 23200 plants
6.	1995-96	6.55 lakhs	6.55 lakhs	20500	39.93 for 16400 plants
7.	1996-97	Nil	Nil	Nil	Nil
8.	1997-98	Nil	Nil	Nil	Nil
9.	1998-99	Nil	Nil	Nil	Nil
10.	1999-2000	Nil	Nil	Nil	Nil
11.	2000-01	Nil	Nil	Nil	Nil
12.	2002-03	Nil	Nil	Nil	Nil
13.	2003-04	Nil	Nil	Nil	Nil
14.	2003-04	Nil	Nil	Nil	Nil
15.	2003-04	Nil	Nil	Nil	Nil
16.	2004-05	1.85 lakhs	1.85 lakhs	2025	114.44 for 1620 plants
17.	2005-06	Nil	Nil	110	Nil
18.	2006-07	Nil	Nil	Nil	Nil
19.	2007-08	Nil	Nil	Nil	Nil
20.	2008-09	Nil	Nil	Nil	Nil
21.	2009-10	Nil	Nil	Nil	Nil
22.	2010-11	Nil	Nil	Nil	Nil
23.	2011-12	Nil	Nil	Nil	Nil
24.	2012-13	Nil	Nil	Nil	Nil
25.	2013-14	Nil	Nil	Nil	Nil
26.	2014-15	Nil	Nil	Nil	Nil
27.	2015-16	Nil	Nil	Nil	Nil
28.	2016-17	Nil	Nil	Nil	Nil
29.	2017-18	1.475 Lakhs for 5 years	1.475 Lakhs	500	295 for 500 plants
30.	2018-19	Nil	0.06 Lakhs	50	120 for 50 plants
31.	2019-20	Nil	0.02 Lakhs	20	100 for 20 plants
32.	2020-21	Nil	0.02 Lakhs	20	100 for 20 plants
33.	2021-22	Nil	2.40 Lakhs	650	369.23 for 650 plants

B) Plant Distribution:

Sl No	Year	No. of Plants distributed	Expenditure made	Average cost for each plants
1	2014-15	1000	0.2 Lakhs	Rs.20/plant
2	2015-16	2000	0.46 Lakhs	Rs.23/plant
3	2016-17	10000	3.24 Lakhs	Rs.32.4/plant
4	2017-18	10000	3.15 Lakhs	Rs.31.5/plant
5	2019-20	5000	1.65 Lakhs	Rs.33/plant
6	2020-21	5000	1.55 Lakhs	Rs.31.5/plant
7	2021-22	2500	0.75 Lakhs	Rs.30.0/plant

10. Inspection of plantation by fields: Nil

Experts and their comments and Follow up action.

11. Remarks /any other information.

ANNEXURE - I

AMBIENT AIR QUALITY REPORT

(OCTOBER' 2021 TO MARCH' 2022)

1) MONITORING STATION: Project Office (Compliance Station)

DATE	SPM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	Remarks
05.10.2021	195	109	35	18.96	32.85	Dust emission from Local Transportation, Domestic Cooking, RLS
22.10.2021	239	141	40	11.79	25.03	
10.11.2021	248	157	46	19.87	34.05	
24.11.2021	271	173	51	14.98	21.06	
09.12.2021	193	162	38	20.70	33.45	
23.12.2021	234	180	58	18.94	26.25	
10.01.2022	162	90	36	22.34	28.34	
27.01.2022	155	87	32	22.92	25.37	
09.02.2022	210	144	55	15.50	20.64	
23.02.2022	170	120	47	14.67	19.68	
09.03.2022	195	130	55	19.23	26.88	
23.03.2022	165	114	48	18.25	26.32	
Max (µg/m³)	271	180	58	22.92	34.05	
Min (µg/m³)	155	87	32	11.79	19.68	
Avg. (µg/m³)	203.08	133.91	45.083	18.17	26.66	

2) MONITORING STATION: Sub-station (Compliance Station)

DATE	SPM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	Remarks
08.10.2021	207	121	44	14.41	30.66	
22.10.2021	253	162	45	9.40	20.90	
10.11.2021	273	169	48	17.29	21.06	
21.11.2021	293	188	54	15.15	23.51	
09.12.2021	344	190	60	22.17	28.97	
23.12.2021	236	163	69	20.25	27.36	
10.01.2022	147	87	32	14.33	31.95	
27.01.2022	168	126	36	18.67	27.50	
09.02.2022	177	120	47	14.67	19.68	
23.02.2022	162	115	41	16.95	25.37	
09.03.2022	205	144	58	20.62	30.03	
23.03.2022	170	108	42	12.32	20.32	
Max (µg/m³)	344	190	69	22.17	31.95	
Min (µg/m³)	147	87	32	9.4	19.68	
Avg. (µg/m³)	219.58	141.08	48	16.35	25.60	

**3) MONITORING STATION: NANDIRA COLONY
(Reference Station)**

DATE	SPM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	Remarks
01.10.2021	114	69	33	16.82	27.82	
08.10.2021	133	78	38	17.33	19.12	
09.10.2021	145	83	41	13.84	20.78	
13.10.2021	121	73	36	15.57	20.88	
14.10.2021	138	47	40	13.93	18.11	
21.10.2021	124	69	38	11.21	15.43	
22.10.2021	112	74	40	12.75	16.65	
27.10.2021	138	77	43	12.75	16.65	
28.10.2021	159	86	50	12.63	18.97	
04.11.2021	106	59	36	12.00	18.53	
05.11.2021	113	64	39	13.71	18.89	
11.11.2021	136	75	43	15.33	24.00	
12.11.2021	131	78	46	16.71	26.04	
18.11.2021	131	77	40	13.17	20.55	
19.11.2021	119	74	38	14.84	19.33	
25.11.2021	133	80	44	15.24	20.84	
26.11.2021	157	84	46	15.22	22.47	
02.12.2021	100	60	30	15.25	23.88	
03.12.2021	161	67	35	18.74	27.52	
09.12.2021	150	55	32	15.99	31.98	
10.12.2021	131	67	37	21.28	35.22	
17.12.2021	137	82	56	17.16	21.04	
18.12.2021	193	67	54	13.63	29.40	
23.12.2021	185	77	52	15.52	23.17	
24.12.2021	164	71	51	17.08	20.61	
29.12.2021	144	81	53	10.03	21.98	
30.12.2021	169	82	52	18.78	28.69	
06.01.2022	182	99	30	10.38	30.51	
07.01.2022	190	94	36	14.60	22.47	
13.01.2022	177	71	26	17.14	32.97	
14.01.2022	104	77	32	18.68	28.42	
20.01.2022	165	94	37	15.91	17.45	
21.01.2022	174	85	34	11.70	15.71	
28.01.2022	150	90	40	12.43	19.70	
29.01.2022	136	88	33	13.43	18.26	
03.02.2022	140	72	25	9.88	27.86	
04.02.2022	139	80	30	14.53	20.45	
10.02.2022	156	87	36	11.96	34.56	
11.02.2022	140	79	32	10.03	29.48	
17.02.2022	122	66	25	12.63	16.08	
18.02.2022	132	74	29	10.49	17.76	
24.02.2022	136	70	26	7.53	14.97	
25.02.2022	145	85	33	9.45	15.61	
03.03.2022	136	69	36	16.83	24.17	
04.03.2022	123	61	31	13.88	20.55	
10.03.2022	115	74	25	12.23	19.30	
11.03.2022	126	94	30	15.08	21.21	
16.03.2022	139	84	36	22.60	21.86	
17.03.2022	120	72	29	15.26	24.23	
24.03.2022	159	80	35	10.08	19.30	
25.03.2022	149	77	31	11.15	19.32	
Max (µg/m³)	100	47	25	7.53	14.97	
Min (µg/m³)	193	99	56	22.6	35.22	
Avg. (µg/m³)	141.16	76.04	37.25	14.20	22.37	

Dust emission
from Local
Transportation,
Domestic
Cooking, RLS

4) MONITORING STATION: NATEDI VILLAGE
(Reference Station)

DATE	SPM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	Remarks
01.10.2021	116	66	30	19.12	28.89	Dust emission from Local Transportation, Domestic Cooking, RLS
08.10.2021	137	85	44	16.74	31.42	
09.10.2021	147	81	42	18.63	26.64	
14.10.2021	149	86	44	12.74	29.07	
15.10.2021	133	71	38	14.49	28.83	
22.10.2021	144	79	44	10.35	25.91	
23.10.2021	155	84	46	12.21	25.93	
28.10.2021	146	91	52	9.00	17.70	
29.10.2021	159	86	50	12.63	18.97	
05.11.2021	132	77	40	19.01	31.77	
06.11.2021	124	70	38	20.86	34.80	
12.11.2021	146	83	44	17.73	26.17	
13.11.2021	155	86	47	18.64	20.77	
19.11.2021	169	83	47	11.50	22.63	
20.11.2021	161	88	51	14.70	22.39	
26.11.2021	173	91	53	11.70	21.60	
27.11.2021	158	85	49	15.00	25.48	
03.12.2021	121	86	45	21.29	33.34	
04.12.2021	135	98	55	23.48	37.06	
10.12.2021	152	55	31	19.40	36.86	
11.12.2021	136	77	54	18.99	42.87	
18.12.2021	122	80	42	21.86	21.79	
24.12.2021	168	79	44	16.75	24.37	
25.12.2021	152	78	46	13.44	22.14	
29.12.2021	171	81	47	14.30	25.01	
30.12.2021	166	84	45	16.19	36.66	
07.01.2022	135	77	33	21.17	39.32	
08.01.2022	145	85	36	23.16	40.68	
13.01.2022	192	90	32	20.11	36.72	
14.01.2022	141	82	37	22.25	33.90	
21.01.2022	145	83	30	22.03	26.93	
22.01.2022	155	72	38	19.55	21.38	
28.01.2022	166	96	39	20.15	40.87	
29.01.2022	177	100	47	22.13	34.55	
04.02.2022	130	80	26	19.39	30.13	
05.02.2022	122	74	20	22.09	28.21	
10.02.2022	133	77	36	18.44	26.60	
11.02.2022	109	67	30	18.67	30.14	
18.02.2022	132	69	30	9.65	18.50	
19.02.2022	145	77	35	14.45	21.15	
24.02.2022	133	63	23	11.60	20.76	
25.02.2022	122	60	22	14.75	24.28	
04.03.2022	166	90	34	13.02	31.89	
05.03.2022	148	78	30	19.05	27.55	
10.03.2022	150	83	33	14.39	30.04	
11.03.2022	133	74	26	24.17	28.41	
17.03.2022	123	63	23	16.39	32.26	
18.03.2022	134	70	25	12.05	19.03	
24.03.2022	128	74	35	14.08	21.37	
25.03.2022	121	68	30	12.38	22.39	
Max (µg/m³)	109	55	20	9.0	17.7	
Min (µg/m³)	192	100	55	24.17	42.87	
Avg. (µg/m³)	144.33	79.20	38.22	16.80	27.95	

ANNEXURE - II

NOISE LEVEL REPORT

(OCTOBER' 2021 TO MARCH' 2022)

Monitoring Station : Project Office & Sub-station, Nandira Colliery

Date of Monitoring	1) Project Office		2) Sub-station		Remarks
	DAY (dBA)	NIGHT (dBA)	DAY (dBA)	NIGHT (dBA)	
12.10.2021	71.6	68.5	65.7	62.1	
29.10.2021	70.6	65.3	70.5	64.2	
13.11.2021	68.8	55.1	62.5	55.7	
29.11.2021	66.7	63.1	68.1	62.7	
13.12.2021	65.1	62.0	60.3	53.6	
28.12.2021	61.2	58.5	63.6	59.0	
08.01.2022	58.2	56.3	57.8	50.9	
22.01.2022	57.3	54.2	59.5	55.1	
09.02.2022	54.7	52.4	53.9	46.3	
23.02.2022	54.0	51.8	62.3	59.5	
09.03.2022	48.1	45.6	54.5	51.0	
23.03.2022	50.6	45.4	57.3	54.5	
Max. (dBA)	71.6	68.5	70.5	64.2	
Min (dBA)	48.1	45.4	53.9	46.3	
Avg. (dBA)	60.57	56.51	61.33	56.21	



ANNEXURE - III

MINE DISCHARGE – TREATED WATER QUALITY REPORT (OCTOBER' 2021 TO MARCH' 2022)

Location: Treated Mine Discharge water Tank/MDTP outlet Tank

DATE	PH	OG	TSS	COD	Remarks
12.10.2021	7.71	<4.0	54	36	-
30.10.2021	7.03	<4.0	58	40	-
13.11.2021	6.85	<4.0	32	24	-
30.11.2021	7.53	<4.0	18	16	-
14.12.2021	7.17	<4.0	26	16	-
29.12.2021	6.93	<4.0	20	28	-
14.01.2022	7.04	<4.0	22	8	-
28.01.2022	7.49	<4.0	32	20	-
14.02.2022	7.37	<4.0	28	20	-
26.02.2022	7.31	<4.0	36	24	-
14.03.2022	7.31	<4.0	22	16	-
30.03.2022	7.09	<4.0	30	24	-
Max. (dBA)	7.71	< 4.0	58	40	-
Min (dBA)	6.85	< 4.0	18	8.0	
Avg. (dBA)	7.24	< 4.0	31.50	22.67	

WELL WATER LEVEL MONITORING DATA (OCTOBER' 2021 TO MARCH' 2022)

Date of sampling	Name of the station	Depth from GL (in Meter)	Remarks
30.11.2021	Natedi village well	7.82	Post Monsoon
24.01.2022	Natedi village well	7.82	Winter

GROUND WATER LEVEL MONITORING DATA (OCTOBER' 2021 TO MARCH' 2022)

Date of sampling	Name of the station	Depth from GL (in Meter)	Remarks
30.11.2021	Piezometer no. MTP 11	8.09	Post Monsoon
27.01.2022	Piezometer no. MTP 11	8.45	Winter